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Siemens Corporation
Intellectual Property Department
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EXAMINER

VU, TUAN A

ART UNIT	PAPER NUMBER
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2193

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/822,300	Applicant(s) MUENZEL, GEORG	
	Examiner Tuan A. Vu	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/17/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to the application filed 5/17/2005.

Claims 1-6, 16-17, 19-24, 34-36, 39-41, 44-51 have been amended and claims 1-52 have been re-submitted for examination.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 36-38 are rejected under 35 U.S.C. 101 because the claims are directed to a non-statutory subject matter.

The Federal Circuit has recently applied the practical application test in determining whether the claimed subject matter is statutory under 35 U.S.C. § 101. The practical application test requires that a “useful, concrete, and tangible result” be accomplished. An “abstract idea” when practically applied is eligible for a patent. As a consequence, an invention, which is eligible for patenting under 35 U.S.C. § 101, is in the “useful arts” when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The test for practical application is thus to determine whether the claimed invention produces a “useful, concrete and tangible result”.

As per claim 36, the claim only recites a storage medium having stored thereon a control code representation formatted in a markup language version; and does not recite any action step for implementing what is recited as control code or markup language. As recited, the claim content can be analogized to a stored file in which some control data are written in some format, the file storing followed by no action being conveyed that enable one skill in the art to be reasonably taught that some concrete or useful result is generated therefrom. The claim only provides descriptive elements without specifying actions performed by or using those elements; hence fails to provide steps leading to a useful, concrete, and tangible result as required by the

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practical application test. Hence, the claim only amounts to an abstract idea for failing the requirement of the Practical Application test, hence is rejected for leading to a non-statutory subject matter.

Claims 37-38 are also rejected for failing to remedy to the deficiencies of the base claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-8, 10-12, 14-26, 28-30, 32-45, and 47-52 are rejected under 35 U.S.C. 102(e) as being anticipated by Dole, USPN: 6,634,008 (hereinafter Dole).

As per claim 1, Dole discloses a method for representing industrial automation computer program code using a graphical programming language via a tool (e.g. col. 8, lines 22-32) that stores the created code in the computer memory in an internal representation during execution, the method comprising:

identifying the created industrial automation code in computer memory in the internal representation (e.g. *files and libraries* - col. 7, lines 14-49; *Verilog file* – col. 8, lines 25-32; col. 8, line 63 to col. 9, line 19; col. 10, lines 32-56; col. 13, line 43 to col. 14, line 15; *netlist* – col. 14, lines 42-47; step 503 – Fig. 8; Fig. 11-12; *job steps, chain job* – col. 16, lines 5-9; col. 16, lines 53-55); and

converting the code from the internal representation to a markup language version of the code (e.g. Fig 10; col. 16, lines 10-47; Fig. 13).

As per claims 2-3, Dole discloses storage of the markup language version to be stored in computer storage device (e.g. *XML files* – col. 16, line 21-67) for transmission and being displayed for editing discloses inherent storage for transport across the internet (e.g. Fig. 5).

As per claims 4 and 5, Dole discloses converting the markup-formatted code to the internal representation in computer memory as a corresponding graphical programming language version (e.g. step 527 – Fig. 13; Fig. 17-23 – Note: executing markup file via file decompression to restore *DAG or chip/block or Netlist* based synthesis files defining a circuitry job chain reads on corresponding graphical programming language).

As per claims 6-7, Dole discloses Fig. 5 and XML (e.g. col. 16, line 21-67).

As per claims 8 and 10-11, Dole discloses *step-by-step flows* and *schematic* for a circuit design being documented (e.g. col. 5, lines 11-16; col. 12, lines 5-48); hence has disclosed a graphical language comprising flowchart language and sequential flow chart (*DAG* - col. 16, lines 52-55; col. 17, lines 22-27; Fig. 23) and block diagram language (e.g. step 405-407 – Fig. 9; col. 12, lines 42-55 – Note: *model* and *physical layout* of IC in a circuit reads on block diagram graphical type of language).

As per claims 12 and 14-15, Dole discloses modeling (e.g. *synthesis tool, behavioral model, schematic* - col. 12, lines 5-48); hence has disclosed graphical language comprising a flowchart, block diagram, and sequential diagram (re claims 8, 10-11) being converted into markup language and decompressed therefrom (re claims 4-5).

As per claim 16, Dole discloses an tool with editor command (e.g. col. 13, lines 22-44; Fig. 4, 10, 12).

As per claim 17, Dole discloses executing circuit of design block from the XML language in corresponding graphical language version (e.g. step 527 – Fig. 13; Fig. 17-23 – Note: executing markup file via file decompression to restore *DAG or chip/block or Netlist* based synthesis files defining a circuitry job chain reads on corresponding graphical programming language).

As per claim 18, see Dole (Fig. 5).

As per claim 19, this is a computer product with computer-readable medium (see Dole: col. 28, lines 6-8) for performing the same steps limitations recited respectively in claim 1; hence is rejected with the corresponding rejections as set forth in claim 1, including the rationale to address the industrial automation computer program code limitation.

As per claims 20-23, refer to the rejections of claims 2, 4, 3, 5, respectively.

As per claims 25-26, and 28, refer to claims 7-8, and 10, respectively.

As per claims 30, 32, refer to claims 12, 15, respectively.

As per claims 34-35, refer to claims 17 and 16, respectively.

As per claim 36, Dole discloses storage medium having structure comprising representation of industrial automation control code as markup language version of the code (e.g. col. 16, lines 10-47; Fig. 13).

As per claim 37, see claim 7.

As per claim 38, Dole implicitly discloses coupling to remote computer system (e.g. Fig. 5).

As per claim 39, Dole discloses a computer program product for permitting a user to create industrial automation control programs (e.g. col. 8, lines 22-32), the product comprising a computer-readable storage medium having a computer program code on it, the code comprising:

industrial automation graphical programming language code, an editor adapted to permit the user to create industrial automation control code using graphical elements (e.g. *synthesis tool*, *behavioral model*, *schematic* - col. 12, lines 5-48; *DAG* - col. 16, lines 52-55; col. 17, lines 22-27; Fig. 23; step 405-407 – Fig. 9; col. 12, lines 42-55),

the code being stored in an internal representation during execution (*files and libraries* - col. 7, lines 14-49; *Verilog file* – col. 8, lines 25-32; col. 8, line 63 to col. 9, line 19; col. 10, lines 32-56; col. 13, line 43 to col. 14, line 15; *netlist* – col. 14, lines 42-47; step 503 – Fig. 8; Fig. 11-12; *job steps*, *chain job* – col. 16, lines 5-9; col. 16, lines 53-55); and

code for converting the industrial automation control code thus stored from the internal representation to markup language version of the code (e.g. Fig 10; col. 16, lines 10-47; Fig. 13).

As per claim 40, Dole discloses converting industrial automation control code from the markup language format to the internal representation (see rejection of claim 4).

As per claim 41, Dole discloses a method for communicating the logical structure of software industrial automation control data in order to permit a plurality of application developers to create applications relating to the data, the method comprising:

creating a schema defining a content model for markup language version of an industrial automation control code program system (e.g. DTD – col. 16, lines 10-20; Fig. 13; col. 16, line 65 to col. 17, line 2) converted from a graphical language version of the industrial automation

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control code program (*synthesis tool, behavioral model, schematic* - col. 12, lines 5-48; *DAG* - col. 16, lines 52-55; col. 17, lines 22-27; Fig. 23; step 405-407 – Fig. 9; col. 12, lines 42-55); and posting the schema for access over the network by the application developers (e.g. Fig. 5; Fig. 13).

As per claims 42 and 43, refer to claim 7-8, respectively.

As per claim 44, Dole discloses a method for providing software industrial automation control code from a system of developers coupled in a network (Fig. 5, 13), the system comprising:

accessing a markup language version of the control code (e.g. Fig. 10; col. 16, line 21-67);

transmitting the markup language version of the control code over the network in connection of a client system address, thereby causing the markup-formatted control code to be received by the receiving system (e.g. Fig. 5, Fig. 13, 17-23).

As per claim 45, Dole discloses client transmitting to the server data relating to the markup language version of the control code, wherein the server has access to the modified control code in response thereto, the modified control code is provided in markup language version (e.g. Fig. 5-6; col. 15, line 58 to col. 16, line 4), and further comprising: transmitting the markup version modified control code to the client system address to be received by the client (Fig. 5; Fig. 10 – Note: Fig. 10, steps 1115, 1117 versions to select and posted to developers reads on modified control code or methodologies version transmitted in markup language)

As per claims 47 and 48, see Dole (col. 16, line 21-67; Fig. 5, 13).

As per claim 49, this claim includes an obvious variation of claim 44, and is rejected using the rationale set forth in claim 44 to address the transmitting of control data based on the network address of the first client system, because in view of the server/client paradigm (Dole: Fig. 3-5), the markup language version is received by a first client and possibly a second client.

As per claim 50, this claim includes the same limitation of claim 4 or 40; and is rejected with the rationale used in claim 4 or 40 in conjunction with the rejection as set forth in claim 49; because in a network where markup data is distributed, rendering such data back into internal representation by a first, a second or a third client would be the same.

As per claim 51, Dole discloses a method for industrial automation control code, comprising:

providing a computer system coupled to a network (e.g. Fig. 5);
configuring a first computer to receive over the network transmissions of data from a plurality of industrial automation developer systems (Fig. 3-5); and
receiving data from a the plurality of industrial automation control code developer systems, the data comprising industrial automation code in a markup language version (e.g. col. 16, line 21-67; step 527 – Fig. 13; Fig. 17-23).

As per claim 52, see claim 7.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9, 13, 27, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dole, USPN: 6,634,008, in view of Hoskins et al., USPN: 6,167,406 (hereinafter Hoskins).

As per claim 9, Dole does not teach graphical programming language comprising a ladder logic, but as evidenced via the teachings by Hoskins, providing a ladder logic to be implemented for transmission of circuit design and flow control would also have been obvious in view of the methodologies by Dole to assemble block and execution of the control flow of components in a circuit design. In a method using a object-oriented modeling tool analogous to Lau, Hoskins discloses using browser technologies and markup language, e.g. SGML and activeX, to transport application program development and related representation across platforms and to facilitate developers builder environment (e.g. col. 11, lines 50-63; col. 12, lines 47-65) and further discloses a framework to implement automation control using editing interface to implement a ladder logic in relation to a Programmable Logic Controller (PLC) to effect the controlling tasks (col. 12, line 66 to col. 13, line 51; Fig. 2-80). It would have been obvious for one of ordinary skill in the art at the time the invention was made to apply the circuit synthesis tool and markup conversion as taught by Dole so that ladder logic be also included as part of the graphical language for synthesis and modeling as taught by Hoskins because task and flow control oriented of blocks as taught by Dole can also be applied via a ladder logic so crucial to enable control on the functionality of circuits such as the very useful controller like a PLC as disclosed by Hoskins should this PLC be one of Dole's target design.

As per claim 13, this claim incorporates the rejection of claim 7; and would also includes the rationale to the 'ladder logic' limitation obvious in view of the rejection of claim 9.

As per claims 27 and 31, these claims correspond to claims 9 and 13 respectively, hence are rejected using the same rationale as set forth therein, respectively.

8. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dole, USPN: 6,634,008, as applied to claim 45.

As per claim 46, Dole discloses modeling to support a business application programming scheme using a modeling tool (re claim 44) but fails to disclose using mail message for communications. Official notice is taken that in an enterprise wherein multiple users are connected via the enterprise network services such that network communication and data distribution help fulfill the enterprise business applications, the use electronic mail to communicate data or update information was a well-known concept at the time the invention was made. The providing of electronic mail to Dole's system so as to enable multiple developers to communicate with the common framework to retrieve markup-formatted control data would have been obvious in light of the benefits related to such type of communications as suggested by the well-known concept from above.

Response to Arguments

9. Applicant's arguments filed 5/17/2005 have been fully considered but they are either moot or not persuasive. Following are the corresponding Examiner's rebut in regard thereto.

Rejection 35 USC §101:

(A) Applicant has submitted that amendments have been made to claim 36 so to make the invention a statutory subject matter (Appl. Rmrks, pg. 11, middle). Again, such amendment does remedy a non-statutory type of deficiency; and the rejection under 35 USC 101 has pointed out why claim 36 does not amount to making the claimed invention statutory, i.e. lacking step

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actions using descriptive elements or making usage of stored descriptive material to accomplish a result, such result being required to be concrete, tangible and useful in the computer art, as per the Practical Application Test.

Rejection 35 USC §103:

(B) Applicant's arguments concerning the Lau's teaching (Appl. Rmrks, pg. 11-12) are now moot in light of the new grounds of rejection.

(C) Applicant has submitted that Hoskins teaches away from using a 'markup language format' (Appl. Rmrks, pg. 13, bottom 2 para) for reasons listed in Hoskins col. 12, li 4-12. The rejection does not address the limitation of making markup as one implementing language in industrial automation but only to address a ladder logic limitation owing to Hoskins disclosing on communication of design data using browser methodologies including implementation of a ladder logic of a programmable logic controller. The issue at stakes is not that Hoskins should provide both developing an industrial automation and implementing it with markup language, concerning which the following remarks would be in order. Even though Hoskins mentions about drawbacks on using strictly HTML as specification tool in a development, the bottom line is that Hoskins adds additional Java based implementation to reinforce the static browser pages so to render them more dynamic (see Hoskins: col. 12, lines 47-65); and by means of which convey the code specification, and support thereby a seemingly network-based system development functionalities. The fact that Hoskins applies embedded Java snippets or extensible objects inside tags of a browser pages (ActiveX) does not signify that only Java code implementation is the sole language that Hoskins would rely on to transport the development specifications leading to code implementation. The use of browser with dynamic Java code

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added thereto to transport such Java object embedded inside pages is just evidence that Hoskins does not do away with what is known as HTML tag based methodology (see *dynamic web pages, Web document, applet* - col. 12, lines 20-46). Besides, the use of markup language is not what is missing in the combination as set forth in the rejection. The rejection has set forth why one skill in the art would be motivated to use the ladder logic teaching by Hopkins to add to the design graphical language by Dole. As intended, the rejection is established less on whether some method has designed circuits using browser communications methods to convey developers data in markup format but more on whether a method is for providing via network design data for a ladder logic. The arguments therefore are misdirected or moot in light of the rationale of rejection now put forth.

Because Applicant's argument is not persuasive, the rejections will stand as set forth.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (272) 272-3735. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571)272-3719.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3735 (for non-official correspondence – please consult Examiner before using) or 703-872-9306 (for official correspondence) or redirected to customer service at 571-272-3609.

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Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VAT
June 10, 2005

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